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APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
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08/588,484 01/18/96 THUNDAT T 2240-7141

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EXAMINER

HANIG, R

ART UNIT

PAPER NUMBER

2506

DATE MAILED:

01/30/98

This is a communication from the examiner in charge of your application.  
COMMISSIONER OF PATENTS AND TRADEMARKS

OFFICE ACTION SUMMARY

☒ Responsive to communication(s) filed on 12/29/97

☐ This action is FINAL.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 D.C. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire \_\_\_\_\_ month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-24 is/are pending in the application.

Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

☐ Claim(s) \_\_\_\_\_ is/are allowed.

☒ Claim(s) 1-24 is/are rejected.

☐ Claim(s) \_\_\_\_\_ is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☐ Notice of Reference Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

- SEE OFFICE ACTION ON THE FOLLOWING PAGES -

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1. Claim 24 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 24 has "electromagnetic and" should be deleted from the preamble because the body of the claim is drawn to nuclear radiation detection and therefore makes the claim vague.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnes et al (Nature, vol. 372, 11/3/94 p.79) and Halsor et al (3896309) in view of Barker (3415712) and Burns et al (5550516). Barnes et al show the microcantilever sensor that senses radiation indirectly by the heating effects (see page 80 col. 2). Their readout system is an optical deflection of light, but they also imply that in force microscopy a change in tunneling current could be sensed. Halsor et al shows the same inventive concept and discusses a multiwavelength radiation detector; their readout system uses the measurement of surface conductivity as an indicator of radiation. These references do not show the measurement of capacitance or a mechanical or resonating frequency as an indicator of radiation, but Barker uses the measurement of capacitance (see fig. 5) and Burns et al show using a resonating frequency measurement (col. 10, line 30) as indicators of how much a bimetallic strip bends due to some external

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influence. The actual source of the bending is not important in these two references. It would have been obvious to one of ordinary skill in the art to use different readout systems such as in Barker or Burns et al in the sensor of Barnes et al or Halsor et al depending on the sensitivity needed or design choice to solve a specific problem; there are many ways to readout and correlate the bending of a bimetallic strip to some physical quantity of the system being measured and one skilled in the art would know these techniques.


4. Claim 24 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112 set forth in this Office action.

5. The following is a statement of reasons for the indication of allowable subject matter: using radiation damage that causes a change in the elastic modulus within the microcantilever sensor is not suggested or shown in the prior art.

6. Applicant's arguments are moot because there are new grounds of rejection; however with respect to remarks about the Barnes et al reference, the examiner respectfully disagrees, they are definitely measuring radiation.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to R. Hanig whose telephone number is (703) 308-4853.

January 27, 1998

  
MICHAEL J. TOKAR  
SUPERVISORY PATENT EXAMINER  
GROUP 2500